

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A flat panel display device comprising:
 - a rear substrate including an insulating substrate and a plurality of cold cathode elements disposed on said insulating substrate for emitting electrons;
 - a display substrate including a light-transmissive substrate disposed to face said rear substrate and phosphors disposed on said light-transmissive substrate for generating light when excited by electron beams from said plurality of cold cathode elements;
 - a peripheral frame member interposed between said rear substrate and said display substrate such that a space enclosed by said peripheral frame member, said rear substrate and said display substrate is vacuum tight; and
 - a metal sheet provided on a surface of said light-transmissive substrate facing toward said rear substrate and perforated with a plurality of holes arranged in a matrix configuration with said plurality of holes having said phosphors disposed within to form a display region each corresponding to one of said plurality of cold cathode elements; and
 - a metal back adapted to be supplied with an anode voltage for leading said electrons from said plurality of cold cathode elements toward said metal sheet;
 - wherein each of said plurality of holes has a corresponding one of said phosphors disposed therewithin, and a thickness of said metal sheet is greater than a thickness of said phosphors disposed within said plurality of holes.

2. (original) A flat panel display device according to claim 1, wherein said display substrate further includes an adherent layer for affixing said metal sheet to said light-transmissive substrate.

3. (original) A flat panel display device according to claim 1, wherein said metal sheet is perforated with said plurality of holes after said metal sheet is affixed to said light-transmissive substrate with an adherent layer.

4. (original) A flat panel display device according to claim 2, wherein said adherent layer is made chiefly of one of glass, ceramics and alumina.

5. (original) A flat panel display device according to claim 4, wherein said adherent layer is a layer having its light transmission limited to a specified value, and made chiefly of one of a glass, ceramics and alumina.

6. (original) A flat panel display device according to claim 2, wherein coefficients of thermal expansion of said metal sheet, said light-transmissive substrate and said adherent layer are approximately equal to one another.

7. (original) A flat panel display device according to claim 1, wherein said metal sheet has a uniform thickness in a range of from 20 µm to 250 µm.

8. (original) A flat panel display device according to claim 1, wherein said metal sheet is made of an alloy made chiefly of Fe-Ni.

9. (original) A flat panel display device according to claim 1, wherein a cross-sectional shape of said holes is rounded.

10. (original) A flat panel display device according to claim 1, wherein a surface of said metal sheet facing toward said light-transmissive substrate is approximately black.

11. (original) A flat panel display device according to claim 1, wherein inner walls of said plurality of holes are electrically conductive.

12. (original) A flat panel display device according to claim 1, wherein a cross-sectional shape of said phosphors is generally U-shaped.

13. (currently amended) A flat panel display device according to claim 1, wherein said metal sheet is provided on a side thereof facing toward said rear substrate with a said metal back ~~adapted to be supplied with an accelerating voltage for accelerating said electrons.~~

14. (original) A flat panel display device according to claim 1, wherein said flat panel display device further comprises spacers for maintaining a spacing between said rear substrate and said display substrate, and said metal sheet is provided with recesses for holding said spacers.

15. (currently amended) A display device comprising:

a rear substrate including an insulating substrate provided with a plurality of cold cathode elements for emitting electrons;

a display substrate including a light-transmissive substrate disposed to face said rear substrate; and

an electrically conductive sheet provided on a surface of said light-transmissive substrate facing toward said rear substrate, and

a metal back adapted to be supplied with an anode voltage for leading said electrons from said plurality of cold cathode elements toward said electrically conductive sheet, said metal back being provided on a side of said electrically conductive sheet facing toward said rear substrate;

wherein said electrically conductive sheet is perforated with a plurality of holes arranged in a matrix configuration each corresponding to one of said plurality of cold cathode elements, and each of said plurality of holes have has a phosphor phosphors disposed therewithin for generating light when excited by said electrons emitted from said plurality of cold cathode elements, and a thickness of said electrically conductive sheet being greater than a thickness of said phosphors disposed within said plurality of holes.

16. (currently amended) A display device comprising:

a rear substrate including an insulating substrate provided with a plurality of cold cathode elements for emitting electrons;

a display substrate including a light-transmissive substrate disposed to face said rear substrate; and

a black sheet provided on a surface of said light-transmissive substrate facing toward said rear substrate; and

a metal back adapted to be supplied with an anode voltage for leading said electrons from said plurality of cold cathode elements toward said black sheet;

wherein said black sheet is perforated with a plurality of holes arranged in a matrix configuration each corresponding to one of said plurality of cold cathode elements, and each of said plurality of holes have phosphers having a phosphor disposed therewithin for generating light when excited by said electrons emitted from said plurality of cold cathode elements, and a thickness of said black sheet is greater than a thickness of said phosphor disposed within said plurality of holes.

17. (currently amended) A flat panel display device according to claim 16, wherein said black sheet is electrically conductive, and said metal back is provided on a side of said black sheet facing toward said rear substrate.

18. (original) A flat panel display device according to claim 16, wherein said black sheet is made of a metal.

19. (currently amended) A flat panel display device comprising:
a rear substrate ~~including an insulating substrate~~ provided with a plurality of cold cathode elements for emitting electrons;
a display substrate including a light-transmissive substrate disposed to face said rear substrate;
spacers interposed between said rear substrate and said display substrate for maintaining a spacing therebetween; and
an electrically conductive sheet provided on a surface of said light-transmissive substrate facing toward said rear substrate, and

a metal back adapted to be supplied with an anode voltage for leading said electrons from said plurality of cold cathode elements toward said electrically conductive sheet;

wherein said electrically conductive sheet is perforated with a plurality of holes arranged in a matrix configuration each corresponding to one of said plurality of cold cathode elements, each of said plurality of holes have phosphors having a phosphor disposed therewithin for generating light when excited by said electrons emitted from said plurality of cold cathode elements, and said electrically conductive sheet is provided with recesses for holding said spacers, at positions of said electrically conductive sheet which do not interfere with said plurality of holes, and a thickness of said electrically conductive sheet is greater than a thickness of said phosphor disposed within said plurality of holes.

20. (new) A flat panel display device according to claim 19, wherein said electrically conductive sheet is provided on a side thereof facing toward said rear substrate with said metal back.